

AMENDMENTS TO SPECIFICATION

Please replace the following paragraph beginning on page 1, line 34 with the following replacement paragraph:

Provided that the air in an intake air duct always flows in one direction only, these sensors work with adequate precision. However, with internal combustion engines, operating conditions can arise in which ~~in the~~ air in the intake air duct of the internal combustion engine is subject to pulsations. These pulsations can become so strong that a backflow of the air occurs, in the reverse of the normal intake direction. However, the measurement principles described above, using heated wire or hot film mass airflow meters, only permit the magnitude of a mass airflow to be determined, but not its direction. In the case of pulsations, this can lead to a backflow being measured as an inflow of intake air, which makes control of the internal combustion engine significantly more difficult.

Please replace the following paragraphs beginning on page 5, line 34 with the following replacement paragraphs:

The invention permits a backflow of air caused by pulsations to be recognized in a simple way, with no change to the mass airflow sensor. In particular, it is no longer necessary to use two mass airflow sensors or one mass airflow sensor with two sensory elements, spaced apart in the direction of the flow, or an additional heating element.

In order to enable the signals from a mass airflow sensor to be used even when a backflow is established, it is preferable that the value of the mass airflow corresponding to a most recent signal is corrected for the occurrence or backflows in the air duct when it has been established that a backflow exists. For this purpose, the value of the signal from the mass airflow sensor, or the value of the mass airflow determined from the characteristic curve, can for example be replaced by the corresponding value before the onset of the pulsation, or by values from a predefined family of correction curves. The latter could include, for example, as independent variables the average mass flow and the ratio of the magnitudes of the parameter for the harmonic vibration to the fundamental

vibration. It is also possible to use as the mass airflow simply the mass airflow determined from the pulsation and to output a further signal which indicates the existence of pulsations.